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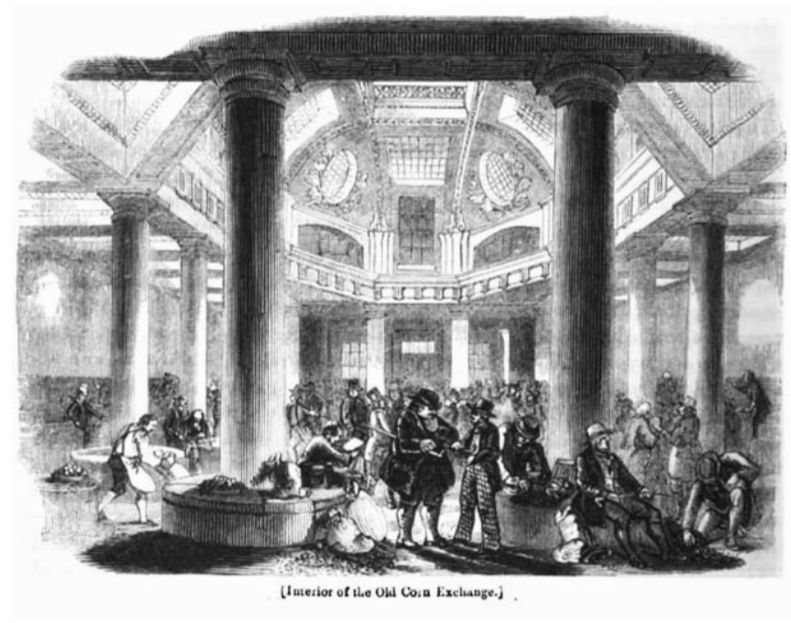
With scores of readers in history, the social sciences, and the public at large, Ken Pomeranz's *The Great Divergence* has been an enormous and well-deserved success. Within history itself, its achievements are nothing short of miraculous, for it has overcome our discipline's obdurate balkanization ("I do early modern Europe—why should I care about Qing China?") and managed to bridge the gap between people who would rarely cross paths or even talk to one another: a world historian, for example, and an economic historian; or a scholar of ancient East Asia and a specialist on the British Industrial Revolution. And it has shaped the research agenda in a variety of history's subfields.

It did all this by posing a question that could not be ignored, even by the many historians who have absolutely no interest in economic history—namely, when did the yawning gap in incomes open up between the West and Asia? China's astounding economic growth and rise to power on the world stage made the question all the more pressing. It had to be answered, and it was clear that the smug old responses of the past would simply not do.

Pomeranz's answer was that the West and East did not diverge until after 1800, at least if it is the wealthiest parts of Europe and Asia that are compared. He argued that incomes in the richest parts of Asia, such as the Yangzi Delta in China, were just as high in 1800 as in Britain, the richest part of Europe, and he also found that there were no essential differences between economic institutions in the two regions. Given his conclusions, it was no longer possible to blame China's failure to develop on ancient poverty or on some long-term institutional handicap. Those sorts of arguments, which had been common, would simply not work anymore, particularly after other work in Chinese history had called attention to extraordinary technological advances in medieval China.

In their place Pomeranz advanced his own explanation for China's failure to industrialize early, as Great Britain had. Britain, he pointed out, had two crucial advantages over the Yangzi Delta and other wealthy regions of Asia. First of all, it possessed cheap, easily accessible coal, which provided abundant energy for factories; and second, it had colonies that could furnish land-intensive commodities such cotton and timber. Britain therefore escaped the constraints of preindustrial farming and forestry that hobbled Asia and the rest of Europe. With coal, the British could heat their homes and run their blast furnaces without chopping down every tree in the United Kingdom. And with colonies they could get all the raw cotton they needed to turn out the printed textiles that were the rage during the Industrial Revolution.



An illustration of the Corn Exchange, London, mid-19th century. Library of Congress, Prints and Photographs Division [reproduction number, LC-USZ62-97321].

Like all successful books, *The Great Divergence* has triggered an avalanche of research, particularly in economic history. What does all this subsequent work say about Pomeranz's conclusions? As other members of this panel have pointed out, recent publications suggest that the gap between Britain and the richest parts of China actually opened up well before 1800 and thus earlier than Pomeranz claimed. Building workers in Britain were earning more than their counterparts in the wealthiest parts of China as far back as the early 18th century. The British workers' real wages were higher and so were their earnings in silver. The Chinese building workers were in fact not on a par with Britain but rather with the building workers in the backward parts of Europe.[1]

One may of course worry that building workers are not representative of a whole economy. Furthermore, families drew earnings from sources other than wages, particularly in China. Still, the wages do say something about what semi-skilled workers earned for their labor alone, and if further research confirms the wage figures, then it will be impossible to avoid the conclusion that the relative price of labor was higher in Britain than in the richest parts of China. That conclusion would also fit with the most recent work on the Industrial Revolution. Growth rates, we now know, were excruciatingly slow during Britain's Industrial Revolution; even so, incomes in Britain ca. 1850 were much higher than in China. But if incomes were higher in 1850 and growth during the preceding century was slow, then Britain must have been much richer in 1750 than China, and wages would have likely been higher, too.[2]

The high relative wages in Britain are the key to understanding the Industrial Revolution, or so Robert Allen has recently argued. The high wages in Britain created an incentive to find ways to replace labor with machines, and the incentives were particularly strong in Britain's large cotton textile industry. It faced a ravenous demand for cheap printed cotton cloth—one of the premier consumer goods of the late 18th century—because this allowed the lower classes to ape the silks and other expensive clothing of the wealthy, but at a fraction of the cost. The size of this cotton textile industry magnified the reward for any inventor who could discover a way to mechanize the spinning of cotton, and it helps explain why the other high-wage European economy, the Netherlands, failed to industrialize, for among other things, it lacked a big cotton textile industry. In China, India, and much of continental Europe, by contrast, there was no such incentive. Wages were in fact so low that it did not pay to industrialize, at least before the mid-19th century.[3]

What about the other causes that Pomeranz invokes—cheap coal and colonies? Allen's book bears out Pomeranz on coal. It was plentiful in Britain and cheap, and the low price of coal added to the reasons to mechanize and replace labor with energy-consuming machines, particularly steam-driven pumps and spinning machines. As for colonies, they mattered, too, but not for the reasons Pomeranz emphasizes. Colonial goods were important, but not because they freed up land. Rather, demand for colonial goods (not just cotton, but sugar and tobacco) was huge, and part of the great wave of consumption that swept over the richer parts of Europe.[4] When victories in warfare gave Britain the lion's share of the trade in these colonial goods (France and the Netherlands were the losers) and in intercontinental trade as a whole, the British economy boomed, or so Allen's economic model shows. That was in large part what boosted British wages and created the incentive to mechanize. Not that warfare was good for economy—far from it. Rather, it was that the British made out like bandits during the wars, at the expense of the French, the Dutch, the Indians, and much of the rest of the world. Higher wages were the result. This sort of argument has been pushed even further in a forthcoming book by Jean-Laurent Rosenthal and R. Bin Wong. They

analyze the effects of the endemic warfare among European states and argue that it drove industry into cities in Europe and ultimately raised European wages. The unintended consequence was again an incentive to mechanize manufacturing, an incentive that was absent in China because more often than not China was unified, and not divided into warring states.[5]

What should we bring away from all the research Pomeranz's book has unleashed? One conclusion seems clear: the British Industrial Revolution was not at all foreordained, even if British wages were higher in the early 18th century. Britain industrialized thanks to a succession of historical accidents and unlikely contingencies, any one of which could have completely changed the ultimate outcome. Britain was lucky enough to possess cheap coal, and to be an island that could funnel resources into building up a powerful navy without the burden of supporting a large standing army. The navy then defended Britain's borders and won trade wars that set the British economy afire and eventually launched the Industrial Revolution.

No other country could have followed that path. Had France won the 18th-century trade wars, it would not have industrialized because the effects of trade would have been diluted by a much larger population. The same conclusion would hold with even more force for China with its enormous population. But if Britain had lost the 18th-century wars, it might not have industrialized at all, and in that case the whole world might still be mired in poverty. That, after all, had been the usual state of the world for millenia, simply because no country had leaped over the threshold of self-sustaining growth. Without Britain's extraordinary luck, we might all still be caught in that trap.

Such a nightmarish counterfactual is not the only one economic historians can conjure up. One can in fact imagine other, more pleasant paths that could have led to industrialization, but via a route completely from the one Britain took. Suppose, for example, that Mongols had never conquered China. Such an outcome is hardly impossible, for the Mongols' initial success depended on the charismatic leadership of Ghengis Khan, and their empire could have easily disintegrated before they overcame China. Without the Mongols, China would have been divided into three hostile powers coexisting in a stable military equilibrium: the Jin, the Western Xia, and the Southern Song along the coast. Mercantile elites in the Southern Song coastal cities might well have lobbied for a powerful navy so that they could pursue overseas trade. Continued warfare and burgeoning trade might then have raised wages in these cities and ultimately sparked industrialization based not on cheap coal but on water power, as in the early American textile industry. And even if that scenario did not lead to industrialization before 1800, it might still have left coastal China with a state that was better able to stand up to Western powers and an economy that was ready to mechanize manufacturing in the 19th century.

By that time—if we return to historical reality—machinery had been greatly improved, and it was profitable to use virtually everywhere, not just in Britain. Why the real China of the 19th century did not immediately make use of this improved machinery and rapidly industrialize remains a big mystery, just as it did when Pomeranz wrote his book. That is a major question that still has to be solved, even if the divergence began well before 1800.

Philip T. Hoffman is the Rea A. and Lela G. Axline Professor of Business Economics and professor of history at the California Institute of Technology. Recent publications include "Prices, the Military Revolution, and Western Europe's Comparative Advantage in Violence," Economic History Review *64, special issue:* Asia in the Great Divergence *(February 2011): 39-59, and, with Gilles Postel-Vinay and Jean-Laurent Rosenthal,* Surviving Large Losses: Financial Crises, the Middle Class, and the Development of Capital Markets *(Harvard University Press, 2007). He is currently at work on a book tentatively titled "Why Was It Europeans Who Conquered the World, and not Someone Else?"*

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[2] N.F.R. Crafts and C.K. Harley, "Output Growth and the British Industrial Revolution: A Restatement of the Crafts-Harley View," *Economic History Review* 45 (1992): 703–773.

[3] Robert C. Allen, *The British Industrial Revolution in Global Perspective* (Cambridge University Press, 2009); John Styles, *The Dress of the People: Everyday Fashion in Eighteenth-Century England* (Yale University Press, 2008).

[4] Jan de Vries, *The Industrious Revolution: Consumer Behavior and the Household Economy, 1650 to the Present* (Cambridge University Press, 2008).

[5] Jean-Laurent Rosenthal and R. Bin Wong, *Before and Beyond Divergence: The Politics of Economic Change in China and Europe* (Harvard University Press, 2011).

Economic History in the Decade after *The Great Divergence*

R. Bin Wong

Until the late 20th century the study of economic history was largely about what happened in American and Europe history. For historians of China, in the West as well as East Asia, economic history was largely about what didn't happen. The absence of an industrial revolution struck generations of scholars to be a subject worthy of study. During the last two decades of the century, however, a new body of scholarship arose, largely in Chinese and Japanese, that documented a visible and vibrant commercial economy in the early modern era and helped us set a new baseline for explaining what Ken Pomeranz famously has called the great divergence. His book *The Great Divergence: China, Europe, and the Making of the Modern World Economy* has two major messages. First, the early modern Chinese economy was far more similar to the European economy than non-China specialists had assumed. He crafts new estimates and indicators of prosperity and productivity to suggest far more comparable standards of living than previously imagined. Second, he stresses the importance of the contrasting locations of natural resources in China and Europe as well as European access to windfall gains from production in North America. Coal and cotton became drivers of divergence. Pomeranz's evaluation of these factors brings in an environmental history component to earlier economic history arguments.

The influence of Pomeranz's interpretation of the contrasting economic histories of China and Europe at their moment of divergence has been widespread and deep. His empirical advances have inspired economic historians of both China and Europe to pursue new quantitative work on wages, agricultural productivity, and standards of living. His integration of economic history into a world history embracing new subjects like the environment and older themes like the European exploitation of other world regions has won him multiple audiences among and beyond historians. One of the book's greatest strengths is its artful presenta-